



June 21, 2023

Planning Board  
Town Hall  
Pembroke, MA 02359

RE: Response to Peer Review Comments on a Site Plan approval & Special Permit  
Address: 0 & 74 Congress Street – Assessor Lots F9-12C & F9-11  
Applicant: Whatbarn LLC, Owner: Kevin St. George

On behalf of the applicant, we hereby submit responses to comments dated April 25, 2023. The plans and documents were reviewed by Ms. Deborah W. Keller, PE, Director of Engineering at Merrill Engineers and Land Surveyors. We utilized the review outline and have provided our responses in **bold** and Ms. Keller's comments in *italics*.

May 26, 2023

*Pembroke Planning Board  
Town Hall  
100 Center Street  
Pembroke, MA 02359*

*ATTN: Matthew Heins, Planning Board Assistant*

*RE: 2<sup>nd</sup> Site Plan Review – Multi Dwelling Residential Development 0 &  
74 Congress Street  
Pembroke, Massachusetts*

*Dear Matthew and Board Members:*

*As requested, Merrill Engineers and Land Surveyors has performed a peer review of the revised submission for consistency with the Pembroke Zoning Bylaws and the Planning Board Rules and Regulations Governing the Issuance of Site Plan Approval for the above-referenced project. The information submitted to this office and reviewed is as follows:*

*TITLE: Multi Dwelling Residential Development  
0 & 74 Congress Street  
Pembroke, Massachusetts*

*APPLICANT: Whatbarn LLC, 29 Duck Hill Rd, Duxbury MA 02332*

*OWNERS: Kevin St. George, P.O. Box 174, No. Pembroke, MA 02368*

*SITE PLANS: Site Plan  
0 & 74 Congress Street  
Pembroke, Massachusetts*

*Engineer: Grady Consulting, LLC  
Dated: March 13, 2023, revised March 15, 2023 (21 Sheets),  
revised May 10, 2023 (21 Sheets)*

**DRAINAGE CALCULATIONS:**      *Stormwater Management Design Calculations  
0 & 74 Congress Street  
Pembroke, Massachusetts  
Engineer: Grady Consulting, LLC  
Dated: March 9, 2023, (no revision date)*

**ADDITIONAL DOCUMENTS:**      *Applications for Site Plan Approval and Special Permit  
Project Summary Memorandum  
Development Impact Statement  
Site Photos, ZBA Variance decision, ORAD*

*The site is located on the northerly side of Congress Street (Route 14) just east of the Route 53 intersection. The property is located within the Residential-Commercial Zoning District and consists of two parcels with approximately 143,515 square feet or 3.29 acres. Bordering vegetated wetlands and an intermittent stream have been identified surrounding the property. The wetland resources have been reviewed and the boundaries approved by the Pembroke Conservation Commission as accurate through an Order of Resource Area Delineation. The project will require approval from the Pembroke Conservation Commission. The site is currently developed consisting of a single-story building to the rear (north) of the site, several building remains/foundations and open gravel lawn area with debris surrounding the existing building from previous use as a contractor's yard.*

*The project has been modified due to limitations on the septic system location and now proposes the construction of nine (9) new single-family homes and the renovation of the existing structure (barn) for two units for a total of eleven (11) new dwellings. The project also includes the construction of 24 ft wide roadway servicing nine (9) dwellings and a shared driveway to access two (2) additional dwellings, parking areas, underground utilities, stormwater management facilities and a connection to a shared onsite septic system. The stormwater management system for this project consists of catch basins which will direct both surface and roof runoff to two (2) stormwater infiltration/detention basins and one (1) subsurface infiltration chamber system.*

*The following report summarizes our review with respect to the Zoning Bylaws and the Planning Board Rules and Regulations Governing the Issuance of Site Plan Approval. The format of this report will follow the format and sections outlined in the Zoning Bylaw and the Planning Board Rules and Regulations Governing the Issuance of Site Plan Approval. The report does not include a review of the proposed septic system design.*

## **ZONING BYLAWS**

### **Summary of Requested Variances**

*The multiunit dwelling use is allowed by special permit and the following variances have been granted by the Board of Appeals from the Zoning By-laws, Case No. 24-22, dated October 24, 2022.*

#### **Section IV.2.D. – Dimensional Regulations**

##### **IV.2.D.1. Lot Size Upland Area & One Dwelling Unit Per 10,000 Square Feet of Upland Lot Area**

##### **IV.2.D.4. Front Yard Setback**

##### **IV.2.D.5. Side Yard Setback**

#### IV.2.D.6. Rear Yard Setback

*Variances which have been granted are provided in the Notes on the Cover Plan, 1 of 21.*

*Clarification should be provided for the Lot Size variance noted as approved for 113,735 sf. and the lot area, exclusive of wetlands as 112,951 sf which is less than the granted minimum lot size. Comment remains.*

*The proposed dimensional information on the cover sheet (sheet 1) should be consistent with the measurements shown on the Layout plan (sheet 3).*

#### Section V. Special Provisions, Standards and Procedures

1. Signs: *No project signage is shown on the site plans. No further comment needed.*
- 7F. Procedure: *Should the Planning Board approve the project, the approved site plans shall be recorded with the Plymouth County Registry of Deeds within 30 days of the expiration of the appeal period. Proper recording information should be provided on the plans meeting recording requirements. We recommend the site plans be updated with the proper recording information. Comment remains.*

#### RULES AND REGULATIONS GOVERNING SITE PLAN APPROVAL

##### Summary of Requested Waivers

*Two waivers are requested and are noted on the Cover Plan, 1 of 21.*

- *Waiver for the submittal of a traffic study*
- *Waiver for the use of curbing on both sides of the proposed road and the use of cape cod berm*

*We recommend that all waivers that are granted by the Planning Board be specified on the cover sheet of the approved Site Plans. No further comment needed.*

- **No action required**

##### Section IV. Site Plan Content

- 4.7 *A stamped Landscape Plan is provided. There is a notation on the landscape plan to retain the existing stone wall along the site frontage as well as a proposed retaining wall along the septic leaching fields within 5 ft of the existing retaining walls with proposed trees between the two walls.*

*Please verify the limits of the existing walls that will be retained. It is indicated that the existing stone wall along Congress Street shall be retained except for the locations of the two proposed driveway entrances. Comment addressed.*

*The roof runoff collection system should be shown on the Landscape Plan to ensure no conflicts with the proposed landscaping. Comment remains. The roof collection system as well as underground structures (septic tanks, drain manholes etc.) should be shown on the Landscape Plan.*

- **The landscaping plan has been updated to show all utilities.**
- 4.8. *The project is proposed to be serviced by the existing water main within Route 53. Has the DPW reviewed or commented on the water connection, main sizing, and hydrant location including materials etc. The proposed main runs within the shoulder of*

*Congress Street to the main entrance curb cut and tees into the project site to service the proposed development. There will be a short section of water main plugged at the entrance. The applicant should review the water main layout with DPW to determine whether an additional hydrant or blow off valve should be proposed to eliminate any potential for stagnant water locations. Along with DPW coordination, the water connection within Route 53 shall require a Utility State Access Permit. Is there any future plan to extend the proposed water main along Congress Street to the east to Taylor Street? It is indicated that the Applicant is coordinating with the Water Department and will provide further information.*

- **No action required**

4.10 *A typical schematic view and floor plans have been provided for the new dwellings. No architectural plans have been provided for the renovations of the existing structure. Further detail is required for the review. The Barn floor plans have been provided for one unit and the remaining area as common storage. It was discussed with the Planning Board that there will now be two units within the barn. Updated floor plans should be provided.*

- **The updated floor plans for the barn units are being prepared.**

4.11 *It is indicated that two (2) parking spaces are provided for each unit plus 5 additional parking spaces at the rear of the property near unit 5. It is assumed that this would be one garage space and one space within the individual driveways. It is unclear how Unit 5 will be configured for parking spaces. Please clarify the parking spaces on the plans, especially with respect to Unit 5, the extra spaces, and the emergency turnaround area.*

*Parking spaces for Unit 5 have been noted on the plan. It was indicated that another unit will be moved into the existing Barn. Proposed parking should be review to confirm parking spaces for the second unit. The Fire Department has provided further comments regarding adequate turn around area and we anticipate further modification of the parking area.*

4.12 *A breakdown of the building lot coverage and percentage of paved (impervious) area used for parking, loading, access within the property and percent of open space are provided on the Cover Plan, but it seems the building area does not match the drainage analysis and the site coverage calculation looks to be incorrect with the total site area. Please review and correct area coverage calculations. Comment addressed.*

- **No action required**

4.13 *The sight triangles for the driveways are provided on the plans, sheet 16, although the sight triangles measurements do not match the sight distance shown as proposed in the tables of 340 ft., the plan shows approximately 238 ft look west from both entrances. Please indicate the limits of retaining wall and or any vegetation that will need to be removed within the sight triangles. The emergency vehicle movement should be reviewed with the landscape plan to ensure plantings are not proposed within their vehicle envelope. It seems the vehicle overhangs the proposed driveway a few feet and will conflict with a proposed street tree. Comment remains. The site distance information is still not clear on the plan. It looks as though the measurements on the site plan differ from the table shown.*

- **The site distance triangles have been updated to coincide with the table. The stopping sight distance for 30 mph is 200 ft (colored red on sheet 16) and the intersection sight distance for 30 mph is 335 ft. The proposed sight distance is 340 ft (colored green on sheet 16).**

- 4.15 *A Development Impact Statement has been submitted as required. The Planning Board should determine if it is acceptable. Please clarify why there would be no cost to the Town vs revenue as shown in the Five Year Project table. Comment remains.*

**According to Massachusetts municipal Association**

**<https://www.mma.org/community/pembroke/> the Average tax bill is \$6,393. For this analysis we assume that Town services are spread equally across the community and that the budget is balanced. The applicant assumes that the occupants will likely not have children in the school system so the cost to the town will likely be lower than average. The table has been updated accordingly.**

- 4.18 *The proposed building locations are shown on the plans. The minimum building setbacks shown on the site layout plan are not consistent with the zoning table on the Cover Sheet. Please correct. Comment remains. Although the building setbacks meet the requirements the zoning table is not consistent with the minimum setback distances shown on the plans.*

- **The Zoning table has been updated**

- 4.19 *We recommend the Site Plan be reviewed with the Fire Department to confirm the hydrant location and emergency vehicle accessibility. It has been indicated that Fire Department comments will be addressed.*

*Since there is an existing structure on site, please verify if there is an existing septic system and its location so that it can be properly abandoned or removed per the Board of Health regulations. Also, please verify/locate any wells located on site. It was noted that information was obtained from the Board of Health but was not indicated as to what information that was. Comment partially addressed. **The existing conditions plan now shows the locations of the cesspool and the former well. The cesspool and well have been noted to remove/decommission.***

*It is noted that no dumpsters are proposed on site and refuse shall be collected by trash pick-up and the responsibility of the individual homeowners. No further comment needed.*

- **No action required**

*An Erosion Control Plan and details are provided on sheet 15. It is recommended to note that the stormwater basins and subsurface infiltration chamber system not be utilized for temporary sediment traps and be protected from heavy construction traffic so as not to compromise the soil conditions. The project will disturb more than 1 acre of land and will be required to submit an EPA Notice of Intent to obtain a Construction General Permit and prepare a Stormwater Pollution Prevention Plan (SWPPP). It is recommended that a draft SWPPP be submitted to the Town. A draft SWPPP has been provided although the document should be updated as necessary to reflect the final development site plan. Comment addressed.*

- **No action required**

- 4.20 *No sign location is shown on the site plan. Should signage be proposed, information regarding the location, height, size, color, etc. should be submitted to the Planning Board for review. It has been indicated that house signage is provided on Sheet 17 although the only sign detail is the Stop sign. Will house signage be used? Comment partially addressed.*

- **House signage is now shown on sheet 17. Typical house number signage is proposed.**

- 4.21 *Please provide a photometric plan illustrating how the proposed lighting will meet the*

*lighting requirements. It is indicated that the development will be supported with residential lighting on individual units and driveways. Please illustrate lighting fixture locations on the plan. Comment partially addressed. **Lighting locations and details have been added to the Layout sh 3.***

- 4.22 *A waiver has been requested from the requirement of a Traffic Impact Study. Anticipated trip generation estimates have been prepared to support the project. No further comment needed.*
- **No action required**

#### Section V. Requirements

- 5.1 *A stamped Landscaping Plan and Details are provided. The Planning Board should determine if this plan is satisfactory. No further comment needed.*
- **No action required**
- 5.2 *The location of the proposed lighting should be presented on the plans and a photometric plan should be provided. A cut sheet of the lighting fixtures proposed is provided. Additional information on proper shielding and light pole heights should be provided. Site lighting requirements are provided on sheet 3. As noted above, please note lighting fixture locations on the site plan. Comment partially addressed. **Lighting locations and details have been added to the Layout sh 3.***
- 5.3 *Stormwater Management Design Calculations indicate that the overall stormwater management system will attenuate the post development stormwater flows to a level not exceeding the existing conditions. We offer the following comments regarding the drainage design and analysis:*
- *As specified in the Mass DEP Stormwater Management Handbook, the following setbacks to infiltration systems shall be provided:*
    - *Other surface waters, including wetland areas – 50 ft*
    - *Property Lines – 10 ft*
    - *Building foundations, including slabs – 10 ft min.**We recommend that the stormwater basin locations be reviewed and adjusted to provide the appropriate setbacks. Please provide confirmation from DEP that this design will comply with the DEP Stormwater Standard design requirements for an infiltration basin. It has been our understanding that DEP requires the minimum setback to be measured from the back toe of slope of the infiltration basin.*
  - *A test pit is required within the subsurface infiltration chamber system to confirm groundwater and soil conditions. Comment addressed.*
    - **No action required**
  - *The two inspection ports for the subsurface infiltration chamber system included in the drainage analysis should be provided on the plans and subsurface chamber detail as they are used for overflow discharge. The outlet pipe length should be reviewed as the plan conflicts with the drainage model. Comment addressed.*
    - **No action required**
  - *We recommend that the infiltration basins be modeled such that the entire basin is considered infiltration. There is no separation of storage vs infiltration function. The entire basin should be considered as an infiltration basin. The basins will require the*

*appropriate setback from the wetland resource areas. Please provide confirmation from DEP that this design will comply with the DEP Stormwater Standard design requirements for an infiltration basin.*

- **The infiltration basin has been converted to an underground chamber system.**

*The infiltration basins should be provided with a minimum of 15 ft wide berm to access the outlet control structures and emergency outlets. The drainage model indicates a 24"x24" horizontal orifice as the secondary or emergency outlet and the detail shows a grate opening. The grate configuration should be included in the model and modeled as a separate 100-yr model shutting off the outlets to ensure that should the outlets get clogged, and all flow is routed through the 24x24 grate opening, the basin will not overtop the berm in a flood condition. The flood condition should be evaluated for both basins. Comment partially addressed. The berm width is indicated to be 6 ft. As stated, infiltration basins require a minimum 15 ft wide accessible berm per the DEP Stormwater Standard design requirements. It seems the berms could be widened at both the east and west ends to provide 15 ft accessible areas. The outlet control structure could be located on the westerly end to eliminate the extra manhole and pipe crossing with the basin inlet pipe.*

- **The infiltration basin has been converted to an underground chamber system.**

*The 24" x 24" horizontal orifice openings for both basin outlets are indicated as 100% open in the model, this should be adjusted with the grates as shown on the details. The model does not account for the grate configuration.*

- **The infiltration basin has been converted to an underground chamber system.**

*Pond B2 in the clogged condition should include storage to the top of the berm at elevation 99. This may correct the outflow which is greater than the inflow and the peak elevation which is above the current storage elevation of 98.*

- **The infiltration basin has been converted to an underground chamber system.**

*Please update the remove and replace note for the infiltration basin detail as it references a different test pit. Comment addressed.*

- **No action required**

*The outlet control structure details are inconsistent with the drainage model and should be reviewed and corrected. Comment addressed.*

- **No action required**

- *The Checklist for Stormwater Report stamped by the Registered Professional Engineer is included in the Stormwater Management Design Calculations. The checklist should be corrected as it indicates that a sand filter will be used as an LID measure. There looks to be checked items under Standard 5 that don't apply to this project, please update. Standard 8 should be marked as the project is covered by a NPDES CGP and a SWPPP shall be submitted prior to construction. Comment addressed, although the Checklist for Stormwater Report should be resubmitted with the professional engineer's stamp and signature. **The checklist has been stamped and signed***

*It is general practice to design sites to comply with Massachusetts DEP Stormwater*

*Management Regulations. The following section describes the 10 Standards for compliance with Stormwater Management Regulations and the status of the submittal relative to each standard.*

**Standard 1 – Untreated Stormwater**

*Rip rap pad sizing calculations including stone sizing have not been provided. The provided stone sizing calculations have been provided but should be corrected to recommend a minimum of 6" diameter average stone size.*

- **The erosion control pad detail has been updated to specify a 6" minimum diameter average stone size.**

**Standard 2 – Post Development Peak Discharge Rates**

*As shown in the Drainage Report submitted by the design engineer this Standard appears to be met although we have requested additional information regarding stormwater basins and chamber system that may change the analysis and should be considered. This standard is not met. We have requested that the Applicant's engineer confirm with DEP that this design will meet the DEP stormwater requirements. Comment partially addressed. **The stormwater system has been modified to subsurface.***

**Standard 3 – Recharge to Groundwater**

*As shown in the Drainage Report submitted, this standard is met, although we have requested additional information regarding stormwater basins and chamber system that may change the analysis and should be considered. This standard is not met. We have requested that the Applicant's engineer confirm with DEP that this design will meet the DEP stormwater requirements. Comment partially addressed. **The stormwater system has been modified to subsurface.***

**Standard 4 – 80% Total Suspended Solids (TSS) Removal**

*TSS calculations have been submitted demonstrating that a TSS removal rate of 85% is proposed. The DEP Stormwater Management Regulations require pretreatment be provided prior to the infiltration basins/chamber system to obtain the 80% TSS removal rate. No pretreatment BMP is proposed. This standard is not met as proposed. Calculations have been provided to show that the infiltration basin will have pretreatment from the upstream catchbasins which will meet the 80% TSS removal rate. Comment addressed.*

- **No action required**

**Standard 5 – Higher Potential Pollutant Loads**

*This project is not considered a source of higher pollutant loads. This standard is not applicable.*

**Standard 6 – Protection of Critical Areas**

*Based on information presented on MassGIS and the Town of Pembroke GIS web page, the project site is not in a Critical Area.*

**Standard 7 – Redevelopment Projects**

*This project is not considered a redevelopment project. This standard is not applicable.*

**Standard 8 – Erosion/Sediment Control**

*Erosion Control Plan including details has been provided. This standard has been met. The project will require to file for a Construction General Permit (CGP) with the US EPA and implement a Stormwater Pollution Prevention Plan (SWPPP). We recommend a copy of the CGP and SWPPP be provided to the Town prior to the start of construction.*



*A draft SWPPP has been provided although the document should be updated as necessary to reflect the final development site plan. Comment addressed.*

- **No action required**

**Standard 9 – Operation and Maintenance Plan**

*An Operation and Maintenance Plan has been provided as required. This standard has been met. Please include inspection and maintenance for roadway pavement maintenance, crushed stone swale and outlet protection BMPs. The procedures for repairing the infiltration basins should also be included in the O&M plan. It is also helpful to include the manufacturer's maintenance documentation for the subsurface chamber system. Comment partially addressed. The Cultec Recharger specifications were provided but the manufacturers maintenance documentation was not included in the O&M plan.*

- **The cultic maintenance manual has been included in the stormwater report.**

**Standard 10 – Illicit Discharges**

*An "Illicit Discharge Compliance Statement" meeting the requirements specified in the Stormwater Management Regulations has been submitted. This standard is met.*

- **No action required**

- 5.4 *The site development proposes the use of two driveway curb cuts for site access and circulation. The main driveway will access 9 dwelling units while the second driveway will provide access to the remaining two dwellings. No further comment needed.*

- **No action required**

- 5.5 *We recommend if other utility services such as HVAC units or generators are being proposed that they are shown on the plans to ensure no conflicts with other utilities or landscaping. Will Units 10 and 11 have gas service provided? Comment addressed.*

- **No action required**

- 5.9 *Additional detail should be provided for the existing structure and how it would be converted into a residential unit. The Barn floor plans have been provided for one unit and the remaining area as common storage. It was discussed with the Planning Board that there will now be two units within the barn. Updated floor plans should be provided.*

- **Updated floor plans are being prepared.**

**Section VI. Development Impact Statement**

*A Development Impact Statement has been submitted as required. The Planning Board should determine if it is acceptable. No further comment is needed.*

- **No action required**

**ADDITIONAL COMMENTS**

1. *Will the development have a common mail kiosk or bus stop near the main entrance? Is so, should a sidewalk be considered rather than vehicles and pedestrians sharing the driveway? A mail kiosk is now shown near the existing barn (Unit5). Has there been any discussion for a bus stop area near the entrance? Comment partially addressed. **No Bus stop area has been***

**designated. That will be worked out with the bus company if any children live in he neighborhood.**

2. *Please correct the pipe size from DMH-2 to the basin, the drainage model indicates it should be 18" rather than 12" shown on the drain profile. Comment addressed.*
  - **No action required**
3. *Please verify the roadway grading at the entrance, as it is indicated that the roadway will be superelevated toward the westerly side, but the contours illustrate a crown roadway condition. Also, the roadway detail should be corrected to be consistent with the superelevated condition. Comment addressed. The cape cod berm proposed along the western side of the road should be added to the roadway section detail.*
  - **The roadway detail has been updated to show the cape cod berm.**
4. *Rim elevations should be provided at the roof drain manholes on the Utilities – Drain Plan, sheet 6. Comment addressed.*
  - **No action required**
5. *Please correct the drain inlet invert into the subsurface chamber system as it enters the chamber system below the chamber unit within the stone base layer. Comment addressed.*
  - **No action required**
6. *Catch basin CB-5 has approx. 1.4 ft of cover, a shallow catch basin detail should be provided. Comment addressed.*
  - **No action required**
7. *Please correct plan sheet references within plan labels, there seems to be several referencing the wrong plan sheet. Comment addressed.*
  - **No action required**
8. *Please provide a turning movement analysis for the driveway for Units 10 and 11 to ensure that vehicles will not back out onto Congress Street. Driveway turnaround areas have been provided for Units 10 and 11. Comment addressed.*
  - **No action required**
9. *The hood/tee label is missing and should be added to the Catch Basin Detail.*
  - **The hood label has been added to the Catch Basin Detail on sh 18.**
10. *Some of the invert elevations provided on the Outlet Control Structure details are not consistent with the dimensions. Also, the upper orifice on the Infiltration Basin #1 outlet structure and the orifice on the Infiltration Basin #2 outlet structure conflict with the structure top. Please provide further detail on how this will be constructed.*
  - **The outlet control structure for basin #1 has been eliminated. The OCS for basin #2 has been revised as requested.**

*We would be happy to discuss these comments with the design engineer and or the applicant at their earliest convenience. Should you have any questions or need additional information, please do not hesitate to contact this office.*

*Very truly yours,*

**MERRILL ENGINEERS AND LAND SURVEYORS**

Sincerely,

GRADY CONSULTING, L.L.C.

A handwritten signature in black ink, appearing to be 'K. Grady', written over a horizontal line.

Kevin Grady, P.E., Principal